

TITLE  
METALIZATION OF MICROTUBULES  
ABSTRACT

Protein polymers coated with a metal are provided. New methods  
5 are described for the preparation of tubulin-based microtubules such that  
they may be coated, by an electroless plating method, with gold particles  
of <20 nm in diameter without prior reaction with noble metal catalysts.  
The gold particle deposition can occur in suspension or on microtubules  
lying on a surface. Gold enhancement of the gold-particle coating and  
10 annealing results in ohmic conductance that is within a factor of ten of the  
resistivity of bulk gold. These methods are likely to be applicable to other  
protein polymers.

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